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UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service
Cotton Division

FIBER AND SPINNING TEST RESULTS FOR SOME VARIETIES OF COTTON GROWN BY SELECTED COTTON IMPROVEMENT GROUPS, CROP OF 1956 [1]

Fiber and spinning tests have been made on the principal varieties of cotton grown commercially by selected cotton improvement groups beginning with the 1946 crop. These results have been reported for each crop as promptly as possible upon the completion of the tests. This initial report of the 1956 crop includes results obtained from early harvested cottons grown in the Lower Rio Grande Valley of Texas. Supplemental reports will be issued as the harvesting season progresses in these and other areas and will, insofar as practicable, include results for early, mid-season, and late harvested cotton.

During the current season, test results will be published for approximately 125 market areas, each of which will produce 10,000 bales or more of a specified variety of cotton. The criteria for selecting areas and samples and for evaluating the fiber and spinning test data are essentially the same as those for former years, and, together with the manufacturing organization and some of the more important settings used for processing, have been described in previous publications. [2] The spinning lots represent commercially grown cotton of even-running grade and staple from many bales of each specified variety. Qualities other than those reported on are, of course, available in each area as a result of normal seasonal and soil variations.

Results of the fiber and spinning tests here reported (table 1) were obtained in the same manner as those reported for the 1955 crop, except as follows:

1. Values for fiber fineness and maturity in combination as measured on untreated samples in terms of Micronaire units, will be reported in addition to values for fiber fineness and maturity as determined separately by means of the Causticaire technique. The Micronaire values are being reported because of the wide spread interest in and use of such values by trade groups.

2. Results of color measurements will be reported for raw cotton rather than for lint cleaned by means of the Shirley Analyzer.

3. Acid-alkali values in terms of p^H units, will be reported for the first time on the 1956 crop. These values are of interest to some groups in the cotton industry from the standpoint of indicating possible fiber degradation resulting from the action of micro-organisms.

Processing results for the 1956 crop cottons will be based, as in previous years, on four rates of carding. The cottons included in this report were processed in accordance with the organization for Group 2 (card-production rate of 9-1/2 pounds per hour). No data are available at this time for Groups 1, 3, and 4 (card production rates of 12-1/2 pounds, 6-1/2 pounds, and 4-1/2 pounds per hour, respectively), but test results for such cottons will be contained in supplements to this report to be issued as the season progresses.

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[1] Prepared in the Standards and Testing Branch.

[2] Summary of Fiber and Spinning Test Results for Some Varieties of Cotton Grown by Selected Cotton Improvement Groups, Crop of 1955, Agriculture Information Bulletin No. 152. USDA, AMS, February 1956.

Table 1.--Results of classification, fiber tests, and carded yarn processing tests for specified varieties of cotton by states, market area, and period of harvest, processed at a card production rate of 9-1/2 pounds per hour, crop of 1956

Test Item	Deltapine TPSA			Deltapine 15
	Texas			
	Edcouch	Harlingen	Weslaco	Lyford
	Early	Early	Early	Early
Raw Cotton Quality				
Grade (official standards)	SM	M	M	M
Staple length----------------------inches	1-1/16	1-1/16	1-1/16	1-1/32
Fiber length (Fibrograph):				
Upper half mean--------------------inches	1.00	1.00	1.03	1.00
Uniformity ratio--------------------	80	80	81	80
Micronaire--------------------units 1/	4.4	4.6	4.4	4.5
Fiber fineness---micrograms per in. 2/	4.5	4.5	4.5	4.5
Fiber maturity---------------index 2/	80	79	80	79
Fiber tensile strength: (Pressley)				
1/8" gauge------------------index 3/	105	102	102	109
Zero gauge-------------1,000 p.s.i.	80	78	80	86
Nonlint content----------------percent	2.0	2.5	2.2	2.1
Color of raw cotton: 4/				
Reflectance----------------------R_d	77.5	77.4	76.5	77.1
Yellowness-----------------------+b	8.9	8.9	8.7	9.5
Sugar content------------------percent	0.2	0.2	0.1	0.2
Acid-Alkaline value--------p^H units 5/	7.1	7.2	7.3	7.4
Processing Results				
Picker and card waste----------percent	7.4	7.7	7.4	7.7
Neps-------per 100 sq. in. of card web	12	11	15	11
Yarn skein strength:				
22s-------------------------pounds	119	116	115	121
50s-------------------------pounds	40	40	40	41
Average break factor 6/	2309	2276	2265	2356
Yarn appearance:				
22s---------------------------grade	B	B	B	B
50s---------------------------grade	C+	C+	C+	C+
Average index 7/	105	105	105	105

1/ Fiber fineness and maturity in combination, as measured on untreated samples

2/ Determined by the Causticaire method using the Micronaire instrument.

3/ Index of 100 equals a Pressley ratio of 3.19, which was the average strength of 1954 commercial crop of upland cotton in the United States.

4/ Determined by the Nickerson-Hunter Colorimeter on raw stock. R_d values indicate percent reflectance from 0 to 100 and +b values indicate degree of yellowness.

5/ Values below 7.0 indicate acidity. Values above 7.0 indicate alkalinity which when associated with abnormally low sugar content may indicate fiber degradation from the action of micro-organisms.

6/ Based on yarn skein strength of the two yarn numbers spun.

7/ Based on two numbers spun. Index of average quality equals 100.